



Common Monoatomic Ion positioned in Periodic Table

1	2					3	4	5	6	7	8
H <sup>+</sup>									N <sup>3-</sup>	O <sup>2-</sup>	F <sup>-</sup>
Li <sup>+</sup>									O <sup>-</sup>		
Na <sup>+</sup>	Mg <sup>2+</sup>	Transition Metals				Al <sup>3+</sup>			S <sup>2-</sup>	Cl <sup>-</sup>	
K <sup>+</sup>	Ca <sup>2+</sup>	Ti <sup>2+</sup>		Cr <sup>2+</sup>	Mn <sup>2+</sup>	Fe <sup>2+</sup>	Co <sup>2+</sup>				Br <sup>-</sup>
		Ti <sup>4+</sup>		Cr <sup>3+</sup>		Fe <sup>3+</sup>	Co <sup>3+</sup>				
Rb <sup>+</sup>	Sr <sup>2+</sup>								Ag <sup>+</sup>	Cd <sup>2+</sup>	Sn <sup>2+</sup>
											Sn <sup>4+</sup>
Cs <sup>+</sup>	Ba <sup>2+</sup>										I <sup>-</sup>

**Table 1** Prefixes used to indicate the number of atoms in the formula of a chemical compound

number	prefix	number	prefix
1	mono	4	tetra
2	di	5	penta
3	tri	6	hexa

**Table 2** Chemical formulas and names of some binary acids

chemical formula	name
HF (aq)	hydrofluoric acid
HCl (aq)	hydrochloric acid
HBr (aq)	hydrobromic acid
HI (aq)	hydroiodic acid
H <sub>2</sub> S (aq)	hydrosulfuric acid

**Table 3** Names and chemical formulas for some common polyatomic ions

name	chemical formula	name	chemical formula
acetate	C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> <sup>-</sup>	hydrogen sulfite (bisulfite)	HSO <sub>3</sub> <sup>-</sup>
ammonium	NH <sub>4</sub> <sup>+</sup>	hydroxide	OH <sup>-</sup>
carbonate	CO <sub>3</sub> <sup>2-</sup>	hypochlorite*	ClO <sup>-</sup>
chlorate*	ClO <sub>3</sub> <sup>-</sup>	nitrate	NO <sub>3</sub> <sup>-</sup>
chlorite*	ClO <sub>2</sub> <sup>-</sup>	nitrite	NO <sub>2</sub> <sup>-</sup>
chromate	CrO <sub>4</sub> <sup>2-</sup>	oxalate	C <sub>2</sub> O <sub>4</sub> <sup>2-</sup>
cyanide	CN <sup>-</sup>	perchlorate*	ClO <sub>4</sub> <sup>-</sup>
dichromate	Cr <sub>2</sub> O <sub>7</sub> <sup>2-</sup>	permanganate	MnO <sub>4</sub> <sup>-</sup>
dihydrogen phosphate	H <sub>2</sub> PO <sub>4</sub> <sup>-</sup>	phosphate	PO <sub>4</sub> <sup>3-</sup>
hydrogen carbonate (bicarbonate)	HCO <sub>3</sub> <sup>-</sup>	sulfate	SO <sub>4</sub> <sup>2-</sup>
hydrogen phosphate	HPO <sub>4</sub> <sup>2-</sup>	sulfite	SO <sub>3</sub> <sup>2-</sup>
hydrogen sulfate	HSO <sub>4</sub> <sup>-</sup>		

\*Bromine (Br) and iodine (I) form analogous anions, which are named accordingly.

**Table 4** Some oxyanions and their related oxyacids

chemical formula of oxyanion	oxyanion name	chemical formula of related oxyacid	oxyacid name
ClO <sup>-*</sup>	hypochlorite	HClO <sup>*</sup>	hypochlorous acid
ClO <sub>2</sub> <sup>-*</sup>	chlorite	HClO <sub>2</sub> <sup>*</sup>	<del>chlorous acid</del>
ClO <sub>3</sub> <sup>-*</sup>	chlorate	HClO <sub>3</sub> <sup>*</sup>	chloric acid
ClO <sub>4</sub> <sup>-*</sup>	perchlorate	HClO <sub>4</sub> <sup>*</sup>	perchloric acid
NO <sub>2</sub> <sup>-</sup>	nitrite	HNO <sub>2</sub>	nitrous acid
NO <sub>3</sub> <sup>-</sup>	nitrate	HNO <sub>3</sub>	nitric acid
SO <sub>3</sub> <sup>2-</sup>	sulfite	H <sub>2</sub> SO <sub>3</sub>	sulfurous acid
SO <sub>4</sub> <sup>2-</sup>	sulfate	H <sub>2</sub> SO <sub>4</sub>	sulfuric acid

\*Bromine and iodine form analogous oxyanions and oxyacids, which are named accordingly.